Amendments to the Specification

Title

POWER CONVERTER

Applicant respectfully declines to change the title based on CFR 1.72(a). In particular, CFR 1.72(a) states, "The title of the invention . . . must be as short and specific as possible." Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objection to the title.

Specification

The specification had not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation was requested to correct any errors of which applicant might become aware in the specification.

Please replace the paragraph starting on page 2, line 6, with the following amended paragraph:

Power conversion usually results in some amount of power loss as a result of the conversion process. One example is conversion from alternating current (AC) to direct current (DC) power. Thus, new methods and/or techniques to accomplish power conversion, which result in improved efficiency, continue[[s]] to be desirable.

Please replace the paragraph starting on page 3, line 13, with the following amended paragraph:

Reference throughout this specification to "one embodiment" and/or "an embodiment" means that a particular feature, structure, and/or characteristic described may be included in at least one embodiment. Thus, the appearance of the phrases "in one embodiment" or "in an embodiment" in various places throughout this specification typically does not refer to one particular embodiment or the same embodiment. Furthermore, various features, structures,

and/or characteristics described throughout ~~out~~ this specification may be combined in any suitable manner in one or more embodiments.

Please delete the paragraph beginning at page 3, line 22 , which starts with "Power conversion usually results in some amount of power loss . . ."

Please replace the paragraph starting on page 7, line 12, with the following amended paragraph:

Embodiment 100 includes other components illustrated in FIG. 2 [[1]] For example, an input power filter is formed by inductance 230, designated L_1, capacitance 220, designated C_1 and capacitance 245, designated C_a. This input power filter is commonly referred to as a 'pi' filter due to the structure resembling the shape of the mathematical symbol π. This filter may be employed at least in part to smooth the high frequency discontinuous current supplied to isolation transformer 110 such that the resulting current flowing through L_1 is a relatively smooth continuous current with a relatively small amount of ripple current. The ripple current will, in general, approximate a sinusoid with several frequency components. The dominant ripple current frequencies are at the drive frequency of the MOSFETs and at the resonant frequency of capacitor 160 and transformer 110.

Please replace the paragraph starting on page 10, line 13, with the following amended paragraph:

Embodiment 100 of FIG. 2 may operate in accordance with the following method, although, of course, the claimed subject matter is not limited in scope to this particular method embodiment. An input AC signal may be applied to the input filter components, capacitor 245, inductor 220 and capacitor 230. The filtered signal is, thus, applied across configurations 120 and 130, and, thus, across coil 290 of isolation transformer 110. The ~~secondary~~ secondaries of transformer 110 are coupled in this particular embodiment to diodes 301 and ~~303~~ 313 to create a center tapped full wave rectifier. Capacitor 240 provides bulk capacitance to supply current and stabilize V_{out} when diodes 301 or ~~303~~ 313 are not conducting.

Please replace the paragraph starting on page 11, line 1, with the following amended paragraph:

Assuming that drive circuitry 170 applies a drive signal to gate drive transformer 180, transistors 122 and 124, here MOSFETs, turn on and conduct current while transistors 132 and 134 are turned off and are in a nonconductive state. As a result, charge pump capacitor 160 charges with an assumed positive charge at junction 125. Capacitor 160 and the inductance of transformer 110 form a resonant system such that the current flowing through 160 and primary winding 290 smoothly resonates in a sinusoidal fashion until capacitor 160 is fully charged. Current flows through primary winding and the magnetic circuit of transformer 110 results in current flowing in secondary winding 295. FIG. 2 includes several symbols referred to as dots. Dots 291, 292 and 293 are labeled on transformer 110. According to magnetic circuit dot notation rules, a current flow into dot 291 causes a current to flow out of dot 292 and out of dot 293. Diode 301 conducts when current flows out of dot 292, thus transferring energy to bulk storage capacitor 240. Diode ~~303~~ 313 is configured to inhibit current flow out of dot 293 when current is flowing into dot 291. After the capacitor is fully charged, configuration 120 will remain in a conducting state, even though no current is flowing, until drive circuitry 170 starts the discharge cycle.

Please replace the paragraph starting on page 12, line 6, with the following amended paragraph:

Once configuration 130 is energized a resonant current starts reverse flow through capacitor 160 and primary winding 290. Capacitor 160 and the inductance of transformer 110 are again a resonant system such that the current flowing through 160 and primary winding 290 smoothly resonates in a sinusoidal fashion until capacitor 160 is fully discharged. Reverse current flow through primary winding 290 of the magnetic circuit of transformer 110 results in a reverse current flowing in secondary winding 295. In this case, a current is flowing out of dot 291 which induces a current to flow into dots 292 and 293. Diode 301 now inhibits a current flow into dot 292 while diode ~~303~~ 313 allows a